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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/798,108

03/10/2004

Richard C. Ferri

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EXAMINER

TRUONG, CAMQUY

ART UNIT

PAPER NUMBER

2195

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/798,108	<b>Applicant(s)</b> FERRI ET AL.	
	<b>Examiner</b> CAMQUY TRUONG	<b>Art Unit</b> 2195	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/10/04</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-28 are presented for examination.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9 are rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter.

Claims 1-9 recite “a method of facilitating allocation of resource” (see preamble, Claim 1). However, the claims do not require a particular machine or apparatus, nor do these claims transform any article into a different state or thing. According, independent Claim 1, and associated dependent claims 2-9 are not directed to statutory subject matter under 35 U.S.C. § 101.

Claims 10-18 are rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter.

Claims 10-18 recite a “system” comprising “means for obtaining”, “means for taking into consideration”. As currently recited the “system” comprises only computer software element(s). Thus, claims 10-18 are software per se and does

not fall within any of the four enumerated categories of patentable subject matter in section 101.

Claim 19 is rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter.

Claim 19 recites a “system” comprising “a resource manager”. As currently recited the “system” comprises only computer software element(s). Thus, the claim is software per se and does not fall within any of the four enumerated categories of patentable subject matter in section 101.

Claims 20-28 are rejected under 35 U.S.C. 101 because they are directed to non-statutory subject matter.

The claims recite “computer usable medium” and the specification fails to define “*machine-readable medium*”. Without definition for “*machine usable*”, it is not clear if the claimed “*machine usable medium*” is intended to claim something broader than storage media (e.g., RAM, ROM, CD-ROM, disks, etc.) and cover signals, carrier waves and other forms of transmission media. Therefore, the limitation “*machine-readable medium*” is not limited to physical articles or objects which constitute a manufacture within the meaning of 35 USC 101 and enable any functionality of the instructions carried thereby to act as a computer

component and realize their functionality. As such, the claims are not limited to statutory subject matter and are therefore non-statutory.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 4-7, 9-10, 13-16, 18-20, 23-26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. (U.S. 2001/003,9581 A1) in view Gerard (U.S. 7,426,749 B2).**

4. As to claims 1, 10, 19-20, Deng teaches the invention substantially as claimed including: a method of facilitating allocation of resources in a heterogeneous computing environment, said method comprising:

obtaining (collecting / record, paragraphs 14, 21 and 29) , by a resource manager of the computing environment ( system status monitor, paragraph 21), one or more attributes relating to one or more nodes coupled to the resource manager said one or more attributes specifying at least one compatible environment supported by the one or more nodes ( the compatibility of the system hardware and software is also provided ; collecting of resource capability information for each server includes metrics

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for cpu, and memory availability, and connectivity to a proxy server to the storage system, paragraph 14); and

taking into consideration, by the resource manager, at least one attribute of the one or more attributes in allocating one or more resources of at least one node of the one or more nodes to a request (analyst to form a metric representation that can be manipulated to compute the best assignments of the request to resources, paragraphs 30-31, and paragraph 15).

5. Deng does not explicitly teach the computing environment is heterogeneous computing environment. However, Gerard teaches the heterogeneous computing environment (col. 1, lines 24-37).

6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Deng to incorporate the teaching of heterogeneous computing environment as taught by Gerard because this allow to maximize the utilization of the underlying resources.

7. As to claims 4-5, 13-14 and 23-24, Deng teaches receiving by the resource manager the request, said request indicating an environment in which the request is to be processed (each request type is assigned a set of at least five parameters or resource requirements in terms of CPU time, memory, bandwidth..., paragraph 24), and wherein the at least one node having the one or more resources to be allocated is able

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to support that environment, as indicated by at least one attribute of the at least one node, although that environment is not a native environment of the at least one node (paragraph 29).

8. As to claims 6-7, 15-16 and 25-26, Deng teaches the obtaining comprises providing by the one or more nodes the one or more attributes to the resource manager (collecting of resource capability information for each server includes metrics for CPU, and memory availability, and connectivity to a proxy server to the storage system, paragraph 14).

9. As to claims 9, 18 and 28, Gerard teaches the heterogeneous computing environment comprises a grid computing environment and said resource manager comprises a grid resource manager (col. 1, lines 24-36).

10. **Claims 8, 17 and 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. (U.S. 2001/003,9581 A1) in view Gerard (U.S. 7,426,749 B2), as applied to claims 7, 16 and 26 above, and further in view of Vass (U.S. 7,421,780).**

11. . As to claims 8, 17 and 27, Deng and Gerard do not explicitly teach the resource manager is a grid resource manager, and the one or more other resource managers comprise one or more cluster resource managers. However, Vass teaches the resource

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manager is a grid resource manager, and the one or more other resource managers comprise one or more cluster resource managers (col. 6, lines 35-63).

12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Deng and Gerard because this would enable efficient resource sharing within a grid, and the network component.

**13. Claims 2-3, 11-12, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. (U.S. 2001/003,9581 A1) in view Gerard (U.S. 7,426,749 B2), as applied to claim 1 above, and further in view of Robinson (U.S. 6,199,095).**

14. As to claims 2, 11 and 21, Deng and Gerard do not explicitly teach the at least one compatible environment comprises at least one non-native environment. However, Robinson teaches teach the at least one compatible environment comprises at least one non-native environment (non native environment, col. 2, lines 6- 34).

15. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Deng and Gerard because this allow the computer program user to easily be able to recompile or modify computer programs developed for older processor architectures on new processor architectures as suggest by Robinson.



16. As to claims 3, 12 and 22, Robinson teaches the taking into consideration comprises considering at least one node that has a native environment different from an environment indicated by the request but is able to support the environment indicated by the request (a server executing on a first architecture (native code) but accessed from a client executing in an execution engine of a different architecture (non-native code) (col. 2, lines 19-34).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAMQUY TRUONG whose telephone number is (571)272-3773. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng Ai An can be reached on (571)272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN H NGUYEN/  
Primary Examiner, Art Unit 2194

Camquy Truong

March 24, 2009